

# The Impact of Religiosity on the Sexual Behaviors of College Students

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#### **A**BSTRACT

Sexuality is considered by most religious traditions to represent general temptation, procreation or a way to strengthen emotional bonds. The purpose of this study was to determine if frequency of religious attendance and perceived degree of religiosity could distinguish between those students who have and have not participated in selected sexual behaviors. Data were collected from a convenience sample of undergraduate students (n = 408) at a southeastern university. Students voluntarily completed a questionnaire in a regular classroom setting. The questionnaire elicited information regarding the frequency of attendance at religious services, perceived strength of religious feelings, perception of God's view of sex, and participation in the following sexual behaviors: sexual intercourse (ever, last year and last month), giving oral sex (ever and last month), receiving oral sex (ever and last month), and anal sex (ever). Data were analyzed using both univariate analysis (chi-square and analysis of variance) and logistic regression. Results indicated that religiosity variables, especially frequency of religious attendance and religious feelings, were significant predictors of sexual behavior. Results should be considered by those working with college students in the area of human sexuality.

### INTRODUCTION

Religion, by definition, is a conservative force based upon a set of beliefs concerning the cause, nature and purpose of the universe. These beliefs are mainly based on traditions involving scriptures, prophecy and revelations that have been incorporated into the theories behind a particular religion. The difficulty with religion and traditional beliefs is that they are slow to change; however, the world is ever-changing. Religion, along with peers, parents and the media, is a primary socialization agent for youth. Most conventional religions strongly discourage premarital sexual activity, permissiveness and adultery. Further-

more, the majority of religious teachings are based upon the assumptions that the major purpose of sex is procreation. <sup>1-3</sup> In contrast to these generally prohibitive sexual ideologies, popular culture and mass media often promote sexual ideals that are mainly characterized by sexual pleasure.

A great deal of research effort has been conducted on understanding variables that influence premarital sexual activity among college students. It has been documented that college students engage in a number of behaviors that place them at risk for Sexually Transmitted Infections (STIs) and unintended pregnancy.<sup>4</sup> According to the Centers for Disease Control and Prevention,

individuals are more likely to be sexually active during emerging adulthood compared to when in high school, but they are also less likely to use condoms.<sup>5</sup> A study by Reinisch, Hill, Sanders and Ziemba-Davis

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revealed that college students participate in comparatively higher levels of risky behaviors, including unprotected sexual intercourse with casual partners. It has also been reported that college students are more accepting of casual sex and experience less sex-related guilt than their younger counterparts. Many college students report adequate knowledge about STIs; however, many do not feel they are at personal risk. According to a study by DiClemente, Forrest and Mickler, despite high levels of HIV/AIDS knowledge, only 8% of college students reported using condoms each time they had sexual intercourse. 9

Many college students report making an effort to reduce risky behaviors; however, DiClemente and his co-workers found that most had multiple sex partners and had not used condoms in the previous year. Additionally, they found that 37% of students who had engaged in heterosexual intercourse during the previous year had never used a condom; and approximately twothirds used condoms during fewer than 50% of their sexual episodes. The majority of research findings among college students indicate risky behavior in the form of inconsistent or no condom use, multiple lifetime sexual partners,8 and alcohol and other drug use combined with sexual activity.10

The dimensions of religiosity and sexuality have been shown to be closely associated. Religion plays a large role with regard to sexual decision making. Many studies have used reference group theory11,12 to explain associations between religiosity and sexual behaviors and attitudes. The theory states that individuals' sexual behaviors and attitudes stem from their religious teachings. Thus, according to reference group theory, identifying with religious teachings will lead an individual to avoid certain types of sexual behavior. Another important factor to consider is whether religiosity is intrinsic (deeply held and a primary motivator for action) or extrinsic (a superficial social motivator for action). The stronger or more deeply held an adolescent's religious beliefs, the more likely religiosity will influence his or her sexual behavior and attitudes.13

Faulkner and DeJong<sup>14</sup> indicated that religiosity encompasses five different dimensions: (1) ritualistic, which focuses on religious behavior as reading religious literature, (2) experiential, which refers to purpose in life and the importance of faith, (3) ideological, which refers to religious beliefs as the idea of deity, (4) intellectual, which deals with religious knowledge, and (5) consequential, which deals with the impact of one's beliefs on his or her secular activities. Fox and Young utilized a multidimensional religiosity scale and found that virgins indicated a greater degree of religiosity, when compared to non-virgins, in three of five different dimensions (ritualistic, experiential, and consequential). 15 Results suggest that virgins reported a greater degree of sexual guilt and religious commitment than their non-virgin counterparts.

Research suggests that religious individuals engage in first sexual intercourse at a later age than their non-religious counterparts. 16,17 Much of the literature on predicting sexual behaviors has focused upon coital debut, with results suggesting that age may be the most consistent predictor of first sexual intercourse. However, many other variables such as gender, race, social status and religious context have been documented.<sup>11,18</sup> In a review of over 250 studies conducted between 1980 and 1999, Kirby found 13 different clusters of antecedents on the topic of sexual risk-taking behavior.<sup>19</sup> One of these clusters was attachment to religious institutions. Religiosity was defined as a protective factor, since it was associated with delaying the initiation of sexual intercourse and with reporting fewer sex partners.2,19

A recent study found that across 52 cultures religiosity was positively correlated with self-described sexual restraint among men (n = 6,982; r = 0.22) and women (n = 9.763; r = 0.25). Laumann, Gagnon, Michael & Michaels found that individuals who reported their religious affiliation as "none" had more sexual partners than those who reported a religious affiliation. Furthermore, Cochran and Beeghley reported

increasingly stronger religiosity effects on attitudes toward premarital sex as denominational commitment increased.<sup>21</sup> Similarly, results of a another study found that frequency of certain sexual behaviors and the extensiveness of those sexual experiences decreased as religious intensity increased.<sup>22</sup> Empirical evidence demonstrates that strength of religious conviction and participation in religious activities are more important than religious denomination or affiliation in predicting whether or not an individual has sex.16 Thus, for the present study we decided to measure frequency of attendance at worship services and self-reported religiosity.

Most studies that have examined the relationship between sexual behaviors and religiosity have focused on sexual intercourse and have not examined other behaviors. In this study we addressed not only participation in sexual intercourse but also giving and receiving oral sex and participation in anal sex. Of known STI risk behaviors, anal intercourse among college women is reported to be the least studied. The available data suggest a higher incidence of anal intercourse among college women compared with the general adult female population.<sup>23</sup> Flannery et al., found that almost one-third (32%) of sexually experienced college women (n = 761) reported that they had engaged in anal intercourse.<sup>23</sup>

Over the past several decades sexual and religious trends have generated a great deal of research interest and policy. Moralistic and political arguments cite a degeneration of values as the major source of the trend toward earlier sexual activity. Furthermore, many studies state that individuals are less likely to attend worship services today than in past decades. <sup>16,17</sup> Evidence confirms that attitudes regarding premarital sex have become more permissive over time. <sup>17</sup> Thus, the extent to which religiosity still influences sexual behavior provides a backdrop for the study.

The purpose of this study was to determine if a set of variables measuring different aspects of religiosity could differentiate between those students who had and had



not participated in selected sexual behaviors. The researchers hypothesized that frequency of worship services and degree of religiosity would distinguish between those who had participated in certain sexual behaviors and those who had not engaged in selected sexual activities.

### **METHODS**

## **Participants**

Data were collected from a convenience sample of undergraduate students enrolled in health science courses at a southeastern university. Participation in the study was voluntary and all subjects remained anonymous. All students attending class on the days data were collected were provided with the opportunity to participate in the study. Few students declined the opportunity to participate. The estimated response rate was greater than 90%.

# **Testing Instrument**

The questionnaire used in the study included measures of sexual behavior, religiosity, and other health behaviors, as well as several demographic variables. For the purpose of this study, students were asked about their participation (yes or no) in the following sexual behaviors: 1) sexual intercourse ever, 2) sexual intercourse in the last year, 3) sexual intercourse in the last month, 4) giving oral sex ever, 5) giving oral sex in the last month, 6) receiving oral sex ever, 7) receiving oral sex in the last month, and 8) anal intercourse ever. These items are commonly used in studies regarding sexual behavior, except relatively few studies have examined participation in anal sex.<sup>23</sup> The questionnaire also included the following religiosity variables: frequency of attendance at worship services (ritualistic dimension); five categories ranging from "never" to "more than once per week" and 2) degree of religious feelings (experiential dimension); five categories ranging from "deeply religious" to "not at all religious." Again, items such as these have been frequently used as measures of religiosity. They address what Faulkner and DeJong called the ritualistic and experiential dimensions of religiosity.14

In addition, we utilized two unique scales titled "I think God has a positive view of sex" and "I think God has a negative view of sex" (these scales address religiosity's ideological dimension).14 The three items from the negative God scale were worded in a restrictive fashion (only for procreation; is a sin; would not be approved) and the three items from the positive God scale were worded in a positive manner (should be enjoyed; for mutual enjoyment; approved of). An example of an item from the positive scale is "sexuality is a gift of God and should be enjoyed." An example from the negative scale is "participation in sexual activities solely for pleasure is a sin." Adequate reliability of the items (Cronbach's alpha = .63) was reported in previous research,<sup>24</sup> where the items were used as a single six item scale reflecting participants' perception of God's view of sex. Since the researchers were studying sexuality within the context of marriage, each of the items was prefaced with the phrase "within the context of marriage." Additionally in that study, factor analysis did show the existence of two distinct factors (positive and negative views) but was not reported. In this study we also used factor analyisis and again detected two

distinct factors (Table 1). Internal consistency was found to be adequate for both scales (negative scale – Cronbach's alpha = .73, positive scale – Cronbach's alpha = .64).

#### **Procedure**

Participants voluntarily completed a questionnaire during normally scheduled class times. Institutional Review Board (IRB) approval was granted prior to implementation of the study.

### Data Analysis

Researchers utilized SAS programs to complete the data analysis. This included descriptive analyses and basic frequency counts. In addition, data were analyzed using univariate analysis (ANOVA and chisquare) as well as logistic regression. For each sexual behavior, separate logistic regression analyses were conducted for males and females. In each case, the four religiosity variables served as predictor variables. The level of significance was set at p < .05.

#### **RESULTS**

# Characteristics of Sample

The majority of the survey participants were female (71%). Relative to class in school, juniors were the largest group of

Table 1. Factor Loadings: Perception of God's View of Sex									
Factor – God Has a Negative View of Sex Questionnaire Item	Factor Loading								
Participation in sexual activities other than penile-vaginal intercourse would not be approved of by God	.748								
God intended sex to be only for procreation	.768								
Participation in sexual activities solely for pleasure is a sin	.826								
Factor – God Has a Positive View of Sex Questionnaire Item	Factor Loading								
God regards reproduction as only one purpose of sexual activity; it is also for mutual enjoyment and pleasure	.844								
Sexuality is a gift of God, and as such should be enjoyed	.831								
Any sexual activity that is agreeable and pleasurable to both partners is approved of by God	.500								



respondents (32%), with sophomores (27%) and seniors (24%) being the second and third largest groups. Freshmen comprised the smallest group of participants (17%). The majority of participants were Caucasian (84%), while African-Americans accounted for 11 percent. The remaining 5 percent included Asian, American Indian/Pacific Islander, and other race/ethnicities.

There were gender differences in regard to religious attendance (p=.002) and religious feeling (p=.006) with females reporting more frequent attendance and greater religious feeling. More than one-third of the females (37.1%), but less than one-fourth of the males (20.7%), reported attending worship services at least once per week. More than half of the females considered themselves to be religious (57.3%) or deeply religious (11.9%). This compared to less than half of the males (42.1% religious, 5.1% deeply religious).

Males were more likely than females to report ever particiapting in sexual intercourse (83.9% vs. 68.7%, p=.002), ever giving oral sex (87.7% vs. 77.7%, p=.023) and receiving oral sex in the last month (53.3% vs. 41.6%, p=.013). More complete data relative to the religioisty and participation in various sexual behavior variables, by gender, are shown in Table 2.

# Sexual Behavior, Worship Attendance, and Religious Feelings—Females

Data for ordinal level variables (frequency of worship attendance and degree of religious feelings) were analyzed using chi-square. Data for interval level variables (God's positive view of sex and God's negative view of sex) were analyzed using two-way (gender x behavior) analysis of variance. These results are presented in Table 3.

Results for females indicated that behavior was not independent (p < .05) of frequency of worship attendance. This was true for all eight sexual behavior variables. Those who attended worship services less frequently were more likely to report participation in the behavior than those who attended more frequently. Additionally, results indicated that behavior was not

independent of degree of religious feeling. This was true for seven of the eight sexual behaviors. Only for "receiving oral sex in last month" was religious feeling found to be independent (p=0.1399) of behavior. For the other seven behaviors, those who indicated stronger religious feelings were less likely to report participation in the behaviors than those indicating less religious feelings.

# Sexual Behavior, Worship Attendance, and Religious Feelings—Males

Results for males indicated that behavior was not independent of frequency of worship attendance for three of the eight sexual behavior variables (participation in sexual intercourse in the last year, giving oral sex ever, and receiving oral sex in the last month). Degree of religious feeling was found not to be independent for two of the eight behavior variables (participation in sexual intercourse in the last year and receiving oral sex in the last month). For these variables for which significant results were obtained, the pattern was similar to that shown for females. Those reporting less frequent worship attendance and weaker religious feelings were more likely to report participation in the behavior than those indicating more frequent worship attendance and stronger religious feelings.

# Sexual Behaviors and Perceptions of God's View of Sex

Results from these analyses revealed significant main effects for behavior for having given oral sex in the last month and God's positive view of sex, and significant behavior x gender interactions for: (1) Giving oral sex in the last month and God's positive view of sex. Males who reported giving oral sex in the last month had the lowest score relative to God's positive view of sex. Males who reported that they had not given oral sex in the last month had the highest score on God's positive view of sex. (2) Participating in sexual intercourse within the last month and God's negative view of sex. Males who reported they had not participated in sexual intercourse in the last month had the highest score relative

to God's negative view of sex. Males who reported participation in sexual intercourse in the last month and females (both those who had and had not participated in intercourse in the last month) had low scores. (3) Participation in anal sex and God's positive view of sex. Males who indicated they had participated in anal sex had the lowest score relative to God's positive view of sex. Males who indicated they had not participated in anal sex had the highest score relative to anal sex. Females who indicated they had not participated had a much lower score.

# Logistic Regression

To determine whether the religiosity variables could, as a set, distinguish between students who had engaged in the sexual behaviors examined in this study and those who had not, a logistic regression was conducted for each of the eight behaviors. Separate analyses were conducted for males and females. Results for females are shown in Table 4. Results for males are shown in Table 5. For seven of the eight behaviors for females, and for six of the eight behaviors for males, results indicated that the set of variables did distinguish between those who reported engaging in the behavior and those who indicated that they had not engaged in the behavior. Percent concordant values ranged from 53.0% to 80.4%.

For females, frequency of worship attendance added a unique contribution to distinguishing between those who reported participating in a behavior and those reporting they had not participated, for six of the eight behaviors (all but receiving oral sex— ever and in the last month). In each case those who attended services more frequently were less likely to participate in the behavior. Other variables that made unique contributions included God's positive or God's negative view of sex (for both sexual intercourse in the last year and anal sex) and religious feelings (for received oral sex ever).

For males, frequency of worship attendance added unique contributions to distinguishing between those who had and had never participated in sexual intercourse and had ever given oral sex. Those who attended



Table 2. Frequency Counts: Religiosity and Sexual Behavior Variables by Gender									
	Males Number %			nales ber %	X²	Р			
Religious Feeling									
Deeply religious	6	5.1	34	11.9	19.691	0.006			
Religious	48	42.1	164	57.3					
Somewhat religious	38	33.3	60	21.0					
Not very religious	16	14.0	6	5.6					
Not at all religious	6	5.3	12	4.2					
Religious Attendance									
Never	6	5.2	24	8,4	23.705	0.002			
1-11 times a year	34	29.3	50	17.5					
Once a month	30	25.9	36	12.6					
2-3 times a month	22	19.0	70	24.5					
Once a week	16	13.8	64	22.4					
More than once a week	8	6.9	42	14.7					
Had sexual intercourse ever									
Yes	94	83.9	195	68.7	9.494	0.002			
No	18	16.1	89	31.3					
Had sexual intercourse last year									
Yes	83	74.1	185	65.6	2.665	0.103			
No	29	25.9	97	4.4					
Had sexual intercourse last month									
Yes	54	49.1	138	48.6	0.008	0.929			
No	56	50.9	146	51.4					
Given oral sex ever									
Yes	100	87.7	216	77.7	5.195	0.023			
No	14	12.3	62	22.3					
Given oral sex last month									
Yes	45	40.2	116	41.7	0.079	0.779			
No	67	59.8	162	58.3					
Received oral sex ever									
Yes	100	87.7	230	82.1	1.852	0.174			
No	14	12.3	50	17.9					
Received oral sex last month									
Yes	63	55.3	116	41.6	6.112	0.013			
No	51	44.7	163	58.4	U.112	0.015			
Participated in anal sex ever									
Yes	20	17.7	40	14.2	0.749	0.387			
No	93	82.3	241	85.8					

services more often were less likely to participate in the behavior. God's positive or negative view of sex added a unique contribution to sexual intercourse in the last month, and only God's positive view of sex added a unique contribution to having given oral sex in the last month. Religious feelings added a unique contribution to ever having given oral sex.

# **DISCUSSION**

Results of the univariate analysis indicated that for females frequency of attendance at worship services was significantly

related to participation in all eight sexual behaviors; religious feeling was related to seven of the eight behaviors. For males, attendance at worship services was significantly related to three of the eight behaviors; religious feeling was related to two of the eight. Perception of God's view of sex



Та	ble 3.	Results	s of Ur	nivariat	e <b>An</b> al	lyses of	f Relig	iosity	Varia	bles B	y Sex	ual Bel	navior	Partici	patior	1	
		Sexua	I Interco	ourse	Given Oral Sex				Received Oral Sex				Anal Sex				
	Ever Last Year		Last Month Ever		Last Month Ever			er er	Last	Month	E۱	/er					
	$\chi^2$	Ρ	$\chi^2$	Р	$\chi^2$	Р	$\chi^2$	Ρ	$\chi^2$	Ρ	$\chi^2$	Ρ	$\chi^2$	Р	$\chi^2$	Ρ	
Frequen	•																
Males		0.5712	17.94	0.003		0.168				0.578		0.295	17.356		10.262		
Females	48.65	<.0001	46.85	<.0001	50.81	<.0001	31.64	<.0001	31.68	<.0001	39.05	<.0001	37.80	< .0001	24.01	0.0002	
Religious	: Feeling	1															
Males	8.95	0.062	13.18	0.010	5 89	0.207	5.50	0.239	6.65	0.155	7.93	0.094	12.50	0.014	9.26	0.055	
Females		<.0001	21.60	0.0002		<.0001				0.0006		<.0001	6.94	0.1389		0.041	
		Sexual	Intercou	urse		Given Or	al Sex		R	eceived	Oral S	ex		Anal	Sex		
		Ever		st Year		Month		ver		Month		Ever	Last N	Month		ver	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
God's Pos	itive Vie	w of Sex	(														
Mean	8.31	8.69	8.27	8.74	8.29	8.53	8.37	8.47	8.29	8.48	8.36	8.72	8.37	8.43	8.59	8.90	
SD	1.89	1.34	1.91	1.33	1.89	1.65	1.85	1.40	1.89	1.70	1.81	1.41	1.81	1.74	1.390	1.355	
Main Eff	ects Re	havior															
F	2.07	TEIVIOI	3.32		1.57		0.47		3.96		2.34		0.68		0.12		
Р	0.151		0.069		0.211		0.493		0.047		0.127		0.410		0.729		
Gender		ior Inter															
F	0.05		0.28		0.91		0.26		6.68		0.42		0.99		7.34		
Р	0.826		0.594		0.341		0.613		0.010		0.516		0.320		0.0007		
God's N	egative	View of	Sex														
Mean	6.25	5.81	6.21	5.88	6.07	6.23	6.13	6.16	6.20	6.08	6.05	6.57	6.22	6.05	6.36	6.11	
SD	2.09	1.66	2.047	1.78	2.21	1.78	1.42	2.07	1.92	2.03	1.95	2.08	1.91	2.03	2.02	1.99	
=																	
Main Eff		navior	0.75		2 52		0.00		1.14		1.68		0.22		0.71		
F P	2.36 0.125		0.75		2.52 0.113		0.00 0.995		0.286		0.196		0.22 0.638		0.71		
1	0.125		0.300		0.113		U.773		0.200		U. 17U		0.036		0.400		
Gender	x Behav	ior Inte	raction														
F	0.23		0.35		4.05		0.15		1.40		0.38		0.15		0.01		
Р	0.635		0.552		0.045		0.696		0.237		0.536		0.698		0.938		

seemed to be less related to behavior. There were significant behavior main effects only for God's positive view of sex and having given oral sex in the last month. Significant behavior by gender interactions were noted for two behaviors. There were no significant main effects for any behaviors with regard to God's negative view of sex. Significant behavior by gender interaction was noted

only for intercourse in the last month.

Results of the logistic regression analyses indicated that, as a set, the religiosity variables were significant predictors of selected sexual behaviors in 13 of the 16 different analyses. The set of religiosity variables was not a factor for males in ever participating in sexual intercourse, nor was it a factor for males or females in having

received oral sex in the last month. For all other behaviors examined, however, religiosity variables distinguished between those who had participated in the behavior and those who had not. Frequency of worship attendance seemed to be the most important distinguishing variable, making a unique contribution to distinguishing between those who did and did not participate in a



Table 4. Resu	ılts of Logistic	Regressio	n Analyses	for Sexu	al Behavio	r Variables	(Female	es)
	Sexual Intercourse		Sexual Intercourse		Sexual Inte	rcourse	Given O	al Sex
	Eve	r	Last Y	ear	Last Mo	nth	Ever	
	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р
Attendance	13.76	<.0002	14.88	<.0001	15.97	<.0001	5.39	<.03
Religious Feeling	0.99	0.32	0.51	0.48	0.05	0.81	0.28	0.59
God's Positive View	3.01	0.08	3.59	0.05	2.87	0.09	0.25	0.62
God's Negative View	2.99	0.08	5.52	<.02	2.28	0.13	0.05	0.81
Percent Concordant	75.2%		74.7%		70.5%		66.9%	
Overall Chisq & Prob	35.24	<.0001	37.45	<.0001	32.99	<.0001	12.17	<.02
	Given Or	al Sex	Received C	Dral Sex	Received C	Oral Sex	Anal S	ex
	Last Month		Ever		Last Month		Eve	r
	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р
Attendance	12.38	<.0004	2.71	0.09	1.72	0.19	17.24	<.0001
	12.36	0.27	4.65	<.04	0.45	0.19	1.16	0.28
Religious Feeling God's Positive View	0.04	0.27	1.88	0.17	0.43	0.50	6.93	<.009
	0.04	0.65	3.66	0.17	0.02	0.86	6.93 9.29	<.009
God's Negative View	0.79	0.57	3.00	0.06	0.04	0.30	7.29	<.003
Percent Concordant	63.3%		76.2%		53.0%		75.7%	
Overall Chisq & Prob	15.66	<.004	23.09	<.0001	2.28	0.69	33.92	<.0001

behavior for six of the eight behaviors for females and four of the eight behaviors for males.

Results of the study support the findings of previous research. Fehring et al., found an inverse relationship with various aspects of religiosity and frequency of coital activity among a population of college students.13 In particular, this involved organized religious activity, including church attendance (r = -.303) and the importance of prayer (r = -.230). The current study similarily found an inverse relationship between frequency of worship attendance and engaging in certain sexual behaviors. Dunne, Edwards, Lucke & Raphael found that among a university sample, those who perceived religion as important in their lives were less likely to participate in sexual intercourse.<sup>25</sup> Findings from the literature also suggest that sexual activity and frequency of coitus are inversely related to level of religiosity, religious attendance and importance of faith among college students.<sup>6,22</sup>

Moreover, Fehring et al., found religiosity to be strongly related to sexual guilt and inversely related to sexual permissiveness among a college population.<sup>13</sup> A recently published study found five different dimensions of religiosity (identity, behavior, attitudes, perceptions and practice) were associated with sexual attitudes and behaviors in unique ways. 11 As in this study, Lefkowitz and colleagues found that religious behavior was the stongest predictor of sexual behavior.11 Thus, overall results of the current study support previous research with regard to the conceptualization that religiosity is associated with fewer sexual behaviors.

Many studies use one-item measures of religiosity, such as frequency of church attendance or single item self-assessments, while other studies suggest that one-item measures fail to capture the multidimensionality of religiosity.11 The current study employed multiple measures of religion; however, overall findings reveal that frequency of religious attendance was the variable most likely to add a unique contribution to the logistic regression analysis.

Interpretation of these results should consider the limitations of the study. Participants consisted of a convenience sample of undergraduate students enrolled in health science classes. As a result, the findings may not be generalizable to the university population or youth of similar ages not enrolled in college. Additionally, the current study was cross-sectional and thus correlates of behavior were assessed rather than antecedents of behavior.

#### CONCLUSION

Religious conviction plays a major role for many individuals with regard to sexuality. Research suggests that differing aspects of religiosity have dissimilar effects on sexual attitudes, risk perception and sexual behavior.<sup>26,27</sup> Furthermore, it is possible that sexual experiences influence religiosity. For example, Thornton and Camburn indicated that those individuals who engage



Table 5. Res	sults of Logisti	c Regres	sion Analyse	es for Sex	ual Behavio	or Variab	les (Males	)
	Sexual Intercourse Ever		Sexual Intercourse Last Year		Sexual Intercourse Last Month		Given Oı Ever	
	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р
Attendance	3.95	<.05	10.23	<.002	0.11	0.74	10.08	<.003
Religious Feeling	1.68	0.19	0.59	0.44	3.36	0.06	6.74	<.01
God's Positive View	0.90	0.34	3.48	0.06	4.43	<.04	0.04	0.84
God's Negative View	0.09	0.76	1.36	0.24	6.64	<.01	0.38	0.54
Percent Concordant	71.4%		80.4%		65.8%		80.2%	
Overall Chisq & Prob	6.67	0.15	20.26	<.0005	10.32	<.04	13.72	<.009
	Given Or	al Sex	Received C	Oral Sex	Received C	Oral Sex	Anal S	ex
	Last M	onth	Ever		Last Month		Eve	r
	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р	X <sup>2</sup>	Р
Attendance	0.10	0.76	6.66	<.001	2.21	0.14	0.00	0.96
Religious Feeling	3.33	0.76	4.91	<.03	6.66	<.01	2.75	0.70
God's Positive View	5.74	<.02	3.12	0.08	1.99	0.16	11.05	<.001
God's Negative View	0.18	0.67	0.99	0.32	0.63	0.43	7.13	<.008
Percent Concordant	66.4%		76.5%		63.1%		78.3%	
Overall Chisq & Prob	11.23	<.03	12.91	<.02	8.30	0.08	15.94	<.004

in premarital sex become less religiously involved.<sup>28</sup> Similarly, there is a possibility that those individuals who engage in short term acts of sexual behavior, or those who commit acts of infidelity, also decrease religious involvement.

Religiosity accounts for a unique variation in two processes critical for the continuation of our species: survival and sexual reproduction. Religiosity seems to affect sexual behavior through a sexual ideology or belief system based upon anticipated negative consequences.<sup>2</sup> Sexual decisions, while ultimately based upon personal choice, are shaped by the multiple social contexts in which individuals develop. Findings from the study demonstrate that religiosity impacts several dimensions of sexuality in unique ways. Effective programs directed at reducing sexual risk-taking among young adults must address social contexts that often promote dissimilar sexual ideologies. It may be important for future studies to address multilevel effects and interactions of peers, parents, schools and neighborhoods. Future research may also wish to examine longitudinal relationships between variables, such as religiosity and contraceptive use.

#### **REFERENCES**

- 1. Bullough VL. Religion, sex, and science: Some historical quandaries. *J Sex Educ Ther.* 2001; 26: 254-258.
- 2. Rostosky SS, Regnerus MD, Wright ML. Coital debut: The role of religiosity and sex attitudes in the add health survey. *J Sex Res.* 2003; 40: 358-368.
- 3. Rowatt WC, Schmitt, DP. Association between religious orientation and varieties of sexual experience. *J Sci Study Relig*, 2003; 42: 455-466.
- 4. Ratliff-Crain J, Kelli D, Dalton J. Knowledge, beliefs, peer norms, and past behaviors as correlates of risky sexual behaviors among college students. *Psychol Healt.*, 1999; 14: 625-641.

- 5. Centers for Disease Contol and Prevention. *Health, United States.* National Center for Health Statisitcs: Hyattsville, MD; 2000.
- 6. Reinisch JM, Hill CA, Sanders SA, Ziemba-Davis M. High-risk sexual behavior at a midwestern university: A confirmatory survey. Fam Plann Perspect. 1995; 27: 79-82.
- 7. Chara PJ, Kuennen LM. Diverging gender attitudes regarding casual sex: A cross-sectional study. *Psychol Rep.* 1994; 74: 57-58.
- 8. Lance LM. HIV/AIDS perceptions and knowledge heterosexual college students within the context of sexual activity: Suggestions for the future. *Coll Stud J.* 2001; 35: 401-409.
- 9. DiClemente R, Forrest K, Mickler S. College students' knowledge and attitudes about AIDS and changes in HIV-preventive behaviors. *AIDS Educ Prev.* 1990; 2: 201-212.
- 10. Lewis JE, Malow, RM. HIV/AIDS risk in heterosexual college students. *J Am Coll Health*.1995; 45: 147-158.
- 11. Lefkowitz SE, Gillen MM, Shearer LC, Boone LT. Religiosity, sexual behaviors, and



- sexual attitudes during emerging adulthood. *J* Sex Res. 2004; 41: 150-159.
- 12. Zaleski EH, Schiaffino KM. Religiosity and sexual risk-taking behavior during the transition to college. *J Adolesc*. 2000; 23: 223-227.
- 13. Fehring RJ, Cheever KH, German K, Philpot C. Religiosity and sexual activity among older adolescents. *J Relig Health*, 1998; 37: 229-247.
- 14. Faulkner JE, DeJong GF. Religiosity in five dimensions: An empirical analysis. *Soc Forces*. 1965; 45: 246-254.
- 15. Fox E, Young M. Religiosity, sex guilt, and sexual behavior among college students. *Health Values*. 1989; 13: 32-37.
- 16. Brewster KL, Cooksey E, Guilkey DK, Rindfuss RR. The changing impact of religion on the sexual and contraceptive behavior of adolescent women in the United States. *J Marriage Fam.* 1998; 60: 493-504.
- 17. Meier AM. Adolescents' transition to first intercourse, religiosity, and attitudes about sex.

- Journal of Social Forces. 2003;81: 1031-1053.
- 18. Young M, Hubbard B, Fox E. The relationship of religious literalism and other religiosity variables to sex guilt and sexual behavior. *Wellness Perspectives*,1992;18:36-50.
- 19. Kirby D. Looking for reasons why: The antecedents of adolescent sexual risk-taking, pregnancy, and childbearing. Washington, DC: National Campaign to Prevent Teen Pregnancy; 1999.
- 20. Laumann EO, Gagnon JH, Michael RT, Michaels S. The social organization of sexuality: Sexual practices in the United States. Chicago, IL: University of Chicago Press; 1994.
- 21. Cochran JK, Beeghley L. The influence of religion on attitudes toward nonmarital sexuality: A preliminary assessment of reference group theory. *I Sci Study Relig.* 1991; 30: 45-62.
- 22. Mahoney ER. Religiosity and sexual behavior among heterosexual college students. *J Sex Res.* 1980;16: 97-113.
  - 23. Flannery D, Ellingson L, Votaw KS,

- Schaefer EA. Anal intercourse and sexual risk factors among college women, 1993-2000. *Am J Health Behav.* 2003; 27: 228-234.
- 24. Young M, Denny G, Luquis R, Young T. Correlation of sexual satisfaction in marriage. *Can J Hum Sex.* 1998; 7: 115-127.
- 25. Dunne MP, Edwards R, Lucke DM, Raphael B. Religiosity, sexual intercourse, and condom use among university students. *Aust J Public Health*. 1992;18: 339-341.
- 26. Hollander D. Teenage women who are devoted to their religion havereduced sexual risk. *Perspect Sex Reprod Health*. 2003; 35: 107-108.
- 27. Miller L, Gur M. Religiousness and sexual responsibility in adolescent girls. *J Adolesc Health*, 2002; 31: 401-406.
- 28. Thornton A, Camburn D. Religious participation and adolescent sexual behavior and attitudes. *J Marriage Fam*, 1989; 51: 641-653.